

WHAT IS CLAIMED IS:

1. A drive circuit for driving a power semiconductor device, said circuit comprising:

5 a control means for controlling switching of the power semiconductor device according to a turn-on instruction or turn-off instruction sent thereto from outside said drive circuit;

10 a controllable variable value detection means for detecting an amount of variable controlled by said control means and applied to said power semiconductor device during a predetermined time period when said control means receives a turn-on instruction; and

15 an abnormality detection means for monitoring the controllable variable amount detected by said controllable variable value detection means so as to detect occurrence of an abnormality in said power semiconductor device.

2. The drive circuit according to Claim 1, wherein said
20 controllable variable value detection means detects, as the controllable variable amount controlled by said control means, either of a control voltage that appears at a control terminal of said power semiconductor device, a current that flows in the control terminal of said power semiconductor device, and an
25 amount of charge supplied to the control terminal of said power semiconductor device.

3. The drive circuit according to Claim 1, wherein said
30 controllable variable value detection means detects the controllable variable amount controlled by said control means

and applied to said power semiconductor device during a transition time period that begins immediately after said control means has received a turn-on instruction and ends before a control voltage that appears at a control terminal of said power semiconductor device reaches a predetermined voltage value.

4. The drive circuit according to Claim 1, wherein said controllable variable value detection means detects the controllable variable amount controlled by said control means and applied to said power semiconductor device during a transition time period that begins at expiration of a predetermined time interval after said control means has received a turn-on instruction and ends before a control voltage that appears at a control terminal of said power semiconductor device reaches a predetermined voltage value.

5. The drive circuit according to Claim 1, wherein when said abnormality detection means detects occurrence of an abnormality, said control means causes said power semiconductor device to make a transition to an off state.

6. The drive circuit according to Claim 5, wherein when said abnormality detection means detects the occurrence of the abnormality, said control means causes said power semiconductor device to make a transition to an off state at a lower speed than that at which said control means causes said power semiconductor device to make a transition to an off state according to a turn-off instruction.

7. A drive circuit for driving a power semiconductor device, said circuit comprising:

5 a control means for controlling switching of the power semiconductor device according to a turn-on instruction or turn-off instruction sent thereto from outside said drive circuit;

a controllable variable value detection means for detecting an amount of variable controlled by said control means and applied to said power semiconductor device; and

10 an abnormality detection means for monitoring the controllable variable amount detected by said controllable variable value detection means so as to detect occurrence of an abnormality in said power semiconductor device, and for validating the detection result of the occurrence of the
15 abnormality only during a predetermined time period after said control means has received a turn-on instruction.